Quality Control

Work Orde i February-12-14 &	r ID 113084 3:16:52 AM		*119	3084*							Page 1	
Revision ID:	03455-1 Spacer	A	Accept	*N900	040	100)*	Setup	Start Stop		S1* S2*	=
Start Date: 2 Required Date: 2 Reference:	/10/14 Start Qty: 40.0 /10/14 Req'd Qty: 40.0			Cust Item I Customer:	D:							
	Process Plan: _ ルレン QC:	• • • • • • • • • • • • • • • • • • • •	Tooling: SPC (Y/N):		ate:			Run	Start Stop	*N	R1* R2*	
Sequence ID/ Work Center ID	Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Rej Qty		Reject Number	Insp. Stamp	_
Draw Nbr	Revision Nbr											
D3455	Rev A										_	
100 *1	Hardinge CNC LAT Memo Small HARDF ,FOLIO	HE SMALL HINGE GOBRA1-TURN AS PER REV: DWG REV:	0.00 0.00 FOLIO FA583 & DW 2-DEBURR AS R			DA 2000	5 67	- 14	-0	2-1	5 (4	\ <i>7</i> -
¹¹⁰ *11∩*	QC2- Inspect parts o	ff machine FAI/FAIB	0.00			00	Î di	14	(- a	2-16	5	
QC Quality Control	Мето		0.00			,89 <u>,</u>	•					
¹²⁰ *1 つ冷 *	QC8- Inspect parts -	second check		aL 14/06	2/16		4	2 _/	೮			
QC	Memo		0.00									

DQA:			Date:			WORK OPPER MON	~	NEO		DATE			*	DART
QA Closed:		٠	Date:			WORK ORDER NON-	٠. ((JNFUI	RIVIAINCE / UF		ork Order up	odate only	٦	AEROSPACE
Work Orde	or.					DISPOSITION		· -		AGAINST DE				
Part N	٠.				<u> </u>	Rework Scrap Use-as-is			Skid-tube Machining noforming	Crosstube Small Fab Finishing	4	Water Jet d. Eng. Coor. re/Packaging		Engineering Quality Other
NCR 1	۷o. _.					Suspected Unapproved			Large Fab	Composite]	Supplier		
Root Cause		Date	Step	Qty	Desc	ription of work order update or non-conformance		nitial ief Eng	Acti Descri		Sign & Date	Verification	$\overline{}$	QC Inspector
Design Doc/Data Equip/Tooling Handling/Pre Material Operator Offset/Setup Process Supplier Training Transport Unapproved			o.cp									Vermissation		QC IIISPECTO
							FA	ULT CAT	regory					
Landi		Bending Centre No Cracks Crimp/Kir Cuffs Crushing Heat Trea Inspection Marks/Ch Turning S	nk/Ripple at n Strip in natter equence	/Wave Tube		General Bend BOM/Route Broken/Damage/Defect Burrs Contamination Countersink Cut Too Short Drawing Drill Holes Finish		Grain Hardwa Inspect Instruct Misalia Mislaba Misread	ion Incomplete/Un tions Incomplete/U gned/off center eled d	_	Outside Dim Over/Under Part Incorred Part Lost/Mi Part Moved Positioned V Power Loss/	tolerance ci ssing Vrong		Pressure/Forced Set-up Temperature/Cure Weld Wrong Stock Pulled Other
		Wave/Tw	ist in Tuk	e		Fit/Function		Out of	Sequence					

Work Orde February-12-14					*119	R084*							Page 2	
Revision ID: Item Name:	D3455-1 Spacer 2/10/14	Start Qty: 40.00	•	*40*	Accept	*N900		100) *	Setup	Start Stop	171	S1* S2*	
Required Date: Reference:	2/10/14	Req'd Qty: 40.00	,	*40*		Customer:		_			g, ,			
Approvals:	Process	Plan:	Date:		Tooling:	D:	ate:			Run	Start	*N	R1*	
	QC:		Date:	<u> </u>	SPC (Y/N):	D:	ate:				Stop	*N	R2*	
Sequence ID/ Work Center II)	Operation Description Identify as per dwg & Sto	ck Location:	8 64	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Rej Qty		Reject Number	Insp. Stamp	
150 Packaging		Memo		<i>v</i>	0.00				47)	<u> </u>		14-	2-18"	9

160

QC21- Final Inspection - Work Order Release

0.00

1 60

Memo

0.00

Quality Control

MLJ 14-02-18

DQA:			Date: _			•			_					
QA Closed:			Date:			WORK ORDER NON	-CC	ONFO	RMANCE / UP		ork Order up	odate only		AEROSPACE
						DISPOSITION			·	AGAINST DE	· · · · · · · · · · · · · · · · · · ·			W. 140 E. E. E. 140
Work Order	:					<u></u>	,				- · · · · · · · · · · · · · · · · · · ·			
5 N.						Rework			Skid-tube	Crosstube	_	Water Jet	Ц	Engineering
Part No	o. —					Scrap			Machining	Small Fab	⊣	d. Eng. Coor.	\vdash	Quality
NCR No	o		to to the second			Use-as-is Suspected Unapproved			noforming Large Fab	Finishing Composite	Rec/Stol	re/Packaging Supplier		Other
	-	<u> </u>									l s: 0			
Root	l	l	<u>.</u>	_	Desc	ription of work order update	l	Initial	Acti		Sign &			
Cause	+	Date	Step	Qty		or non-conformance	Cn	ief Eng	Descri	ption	Date	Verificatio	n	QC Inspector
Design	\dashv													
Doc/Data	\dashv										İ			
Equip/Tooling Handling/Pre	\dashv													
Material	\dashv													
Operator	\dashv													
Offset/Setup	-										}			
Process	\dashv													
Supplier	-													
Training	1												i	
Transport	1												l	
Unapproved	7													
							FA	ULT CAT	TEGORY					· · · · · · · · · · · · · · · · · · ·
Landing	g Ge	ar				General								
	Ве	ending				Bend		Folio/P	rogram		Outside Dim	ensions		Pressure/Forced
	c	entre No	t Concen	tric		BOM/Route		Grain			Over/Under	tolerance		Set-up
	Cı	acks				Broken/Damage/Defect		Hardwa	ire		Part Incorre	ci		Temperature/Cure
	Cı	imp/Kin	k/Ripple,	/Wave		Burrs		Inspect	ion Incomplete/Un	qualified	Part Lost/Mi	ssing		Weld
	c	uffs				Contamination		Instruct	ions Incomplete/U	nclear	Part Moved			Wrong Stock Pulled
[Cı	rushing				Countersink		Misalig	ned/off center		Positioned V	Vrong		
	П	eat Trea	t			Cut Too Short		Mislabe	eled		Power Loss/	Surge		Other
	ln	spection	Strip in	Tube		Drawing		Misread	d					
	\∾	larks/Ch	atter			Drill Holes		Off-set						
		urning Se	equence			Finish		Out of 0	Calibration					
Ι Γ	l۷	lave/Twi	ist in Tub	۵		Fit/Function	1	Out of	Sequence					

February-12-14 8:16:59 AM

Work Order ID: 113084

113084

Parent Item:

D3455-1

D3455-1

Parent Item Name:

Spacer

Start Date: 2/10/14

Required Date: 2/10/14

Start Qty: 40.00

Required Qty: 40.00

Comments:

IPP REV. A

05.11.17

NEW ISSUE

EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch		Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MDELRINR1.000		Purchased	No			100	f	24.2842	0.022	0,926316			
*MDELDII	VID4 AAC	/ *							**	DAS	- , 4	N2	-1

WIDELRINKT OOG

Delrin Round Bar 1"

Loc Oty Loc Code Location MAT039 24.28421 24.28421 m127442

Work Order: DISPOSITION AGAINST DEPARTMENT/PROCESS Water Jet Engineering Quality Thermoforming Finishing Composite Sign & Verification QC Inspector	DQA:			Date:												TOAR
Work Order: Part No.							WORK ORDER NON-	-CC	ONFO	RMANCE / UP	PDATE					AEROSPACE
Part No.	QA Closed:			Date:							1	Work	Order up	odate only		
Rework Scrap Use-as-is Suspected Unapproved Use-as-is State-up Unapproved Use-as-is	Work Orde	ır.					DISPOSITION				AGAINST (DEPA	RTMENT	/PROCESS		
Part No.	Work Orac	-					Rework	1		Skid-tube	Crosstube			Water let	Г	Fngineering
NCR No. Use-as-is Suspected Unapproved Use-as-is Large Fab Composite Rec/Store/Packaging Other Composite Supplier Other Composite Supplier Other Composite C	Part N	lo.								—	 -	\dashv	Pro		-	
Root Cause Date Step Qty Or non-conformance Chief Eng Description Description Description Of work order update Chief Eng Description Date Verification QC Inspector Design Doc/Data Equip/Tooling Handling/Pre Material Operator Offset/Setup Process Supplier Training		-					·		6	· H	<u> </u>	1		_	_	· —
Date Step Qty	NCR N	lo.				_	Suspected Unapproved			· · · · ·	Composite					
Date Step Qty	Root	٦				Desci	ription of work order update		nitial	Acti	on	Ī	Sign &			
Design Doc/Data Equip/Tooling Handling/Pre	Cause		Date	Step	Qty		•	ı		Descri	iption		_	Verificatio	n	QC Inspector
Equip/Tooling Handling/Pre Material Operator Offset/Setup Process Supplier Training Transport Unapproved Dunapproved Dunapprov	Design										· · · · · · · · · · · · · · · · · · ·					
Handling/Pre Material Operator Offset/Setup Process Supplier Training Transport Unapproved Pandling Gear General Sending Gear General Sending Centre Not Concentric Solution S	Doc/Data															
Material Operator Offset/Setup Process Supplier Training Transport Unapproved Department of the Concentric Setup Bending Centre Not Concentric Grain Over/Under tolerance Set-up Cracks Broken/Damage/Defect Hardware Part Incorrect Temperature/Cure Crimp/Kink/Ripple/Wave Burrs Inspection Incomplete/Unqualified Part Lost/Missing Weld	Equip/Tooling															
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Offset/Setup Process Supplier Training Transport Unapproved Unapproved Unapproved Landing Gear General Bending Centre Not Concentric Cracks Broken/Damage/Defect Broken/Damage/Defect Crimp/Kink/Ripple/Wave Burrs FAULT CATEGORY FOLIO/Program Outside Dimensions Pressure/Forced Grain Over/Under tolerance Set-up Temperature/Cure Inspection Incomplete/Unqualified Part Lost/Missing Weld	Material															
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Crimp/Kink/Ripple/Wave Burrs Inspection Incomplete/Unqualified Part Lost/Missing Weld		_		ot Concer	ntric	<u> </u>			i		F	_			H	-
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Crushing Countersink Misaligned/off center Positioned Wrong User Treet Countersink Misaligned/off center Positioned Wrong Other	1	-	_			-			4	=				=	_]
Heat Treat Cut Too Short Mislabeled Power Loss/Surge Other Inspection Strip in Tube Drawing Misread					Tubo	-			4		L		ower Loss/	ourge	<u></u>	Joiner
Inspection Strip in Tube Drawing Misread Marks/Chatter Drill Holes Off-set		$\overline{}$	-	•	rube	\vdash		\vdash	4			_				
Turning Sequence Finish Out of Calibration	}					\vdash		\vdash	4							
Wave/Twist in Tube Fit/Function Out of Sequence		\vdash	_						4			_		· · · · · · · · · · · · · · · · · · ·		

DART AEROSPACE LTD	Work Order:	113084
Description: Spacer	Part Number:	D3455-1
Inspection Dwg: D3455 Rev: A		Page 1 of 1

	FIRST ARTICLE INSPECTION CHECKLIST								
		X First Art	icle _	Prot	otype				
Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Co	mments		
Ø0.453	+0.005/-0.000	0.456							
Ø1.00	+0.010/-0.001	1.003							
0.065	+/-0.010	0.666					<u> </u>		
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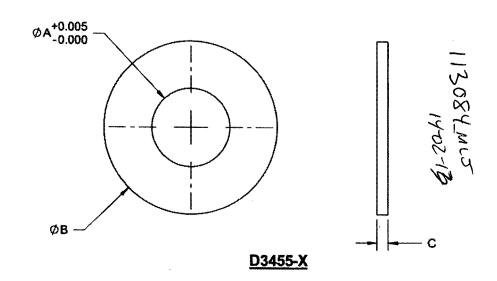
Measured by:	Audited by:	and	Prototype Approval:	N/A
Date: 14 -02-15	Date:	14/02/16	Date:	N/A

Rev	Date	Change	Revised by	Approved
Α	06.07.11	New Issue	KJ/JLM 🚓	B



DESIGN R	-	DRAWN BY RF	DART AERO HAWKESBURY, C	SPACE LTD DINTARIO, CANADA
CHECK	#	APPROVED	DRAWING NO. D3455	REV. A SHEET 1 OF 1
DATE	05.0	9.02	TITLE SPACER	SCALE 2:1
Α	0	5.09.02	NEW ISSUE	

RELEASED 05.12.09



1) SPECIFICATION: D3455-X SPACER



WHERE 'X' IS THE SIZE PER THE FOLLOWING TABLE:

DASH No.	A (in)	B (in)	C (in)
-1	0.453	1.00	0.065
-3	0.386	1.00	0.050

- 1) MATERIAL: DELRIN ROUND BAR (REF. DART SPEC. M-DELRIN-R)
- 2) FINISH: NONE
 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
 4) ALL DIMENSIONS ARE IN INCHES
 5) BREAK ALL UNMARKED SHARP EDGES 0.005 TO 0.010

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